

New Hampshire's Energy Efficiency Programs



nhsaves
energy solutions for new hampshire

New Hampshire's CORE Programs *The Cheapest kWh Is The One You Don't Need...*

Presented To The Energy Efficiency & Sustainable Energy Board

October 17, 2008

New Hampshire “CORE” Programs

- Overview
- Program Specifics
- Forward Capacity Market Primer
- Touch Points & Opportunities
- Q & A

Impact of the NH CORE Energy Efficiency Programs June 2002 thru December 2007



Saved **5.2 billion lifetime kWh** – enough energy to power all of NH for 6 months



Served over **365,000 customers**



Saved customers **\$839 million** – the amount they would have paid for energy no longer needed. These savings are more than seven times the cost of the CORE program



Reduced emissions by **3.2 million tons** – like taking 688,000 cars off the road for a year

What Are The “CORE” Programs?



- **Implementation Began June 2002**
- **Portfolio programs to improve efficiency**
 - Low income weatherization
 - 4 designed for residential customers
 - 3 targeting business
- **Statewide – all NH customers have access**
- **Administered by local electric utility**
- **Funded through System Benefits Charge**
 - \$0.0018 per kWh (all retail kilowatt-hours)
 - \$20.2 million annually (2008 budget)
 - \$98 million (June 2002 – December 2007)

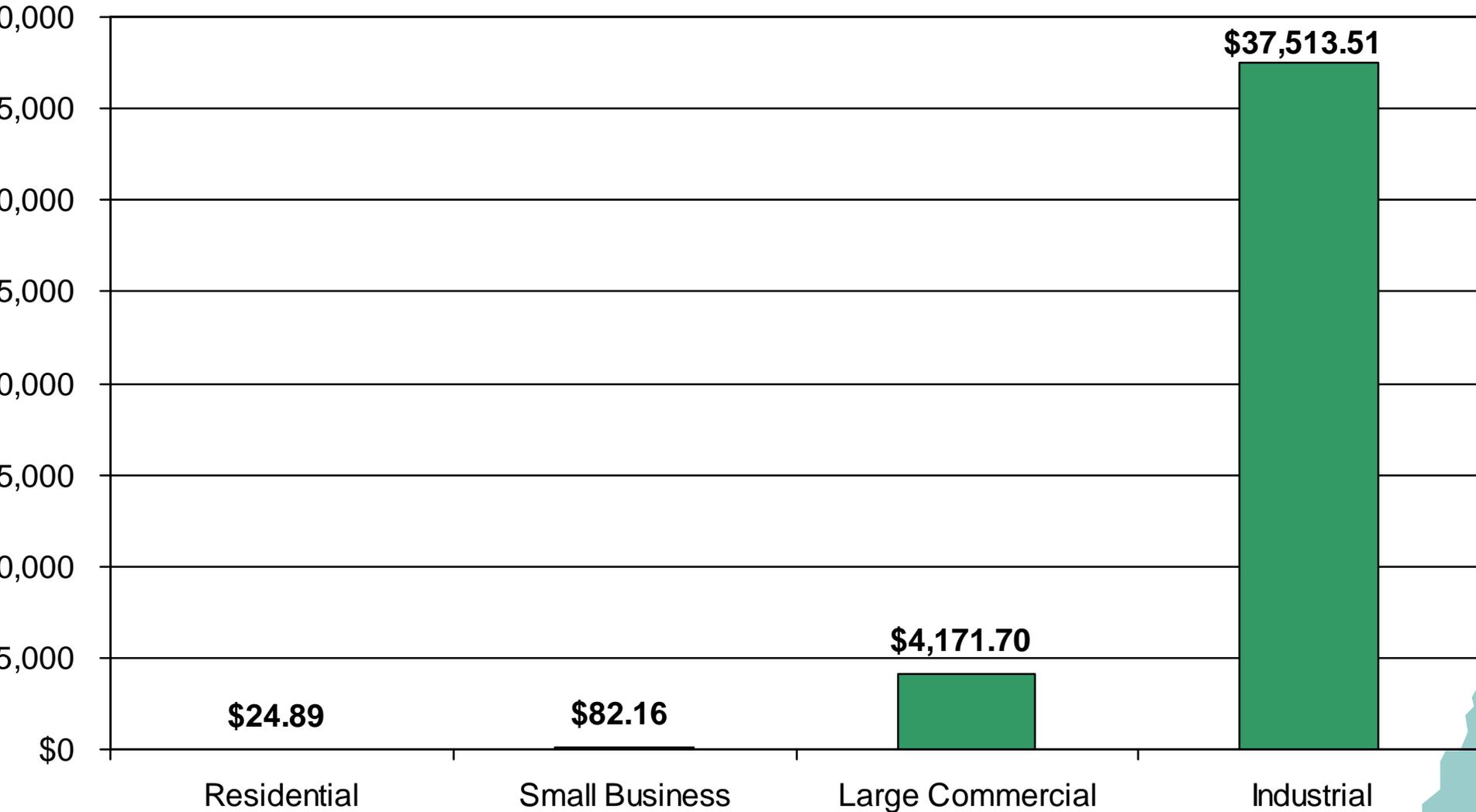
How the SBC Funds are Used

- Guiding Principles
1. RSA 374: Benefits all equitably
 2. NHPUC Order: All contribute to low income equally



Average Annual Customer SBC Payments

(Includes both EE & EAP)



EE Funding by NE States 2005 vs. 2007

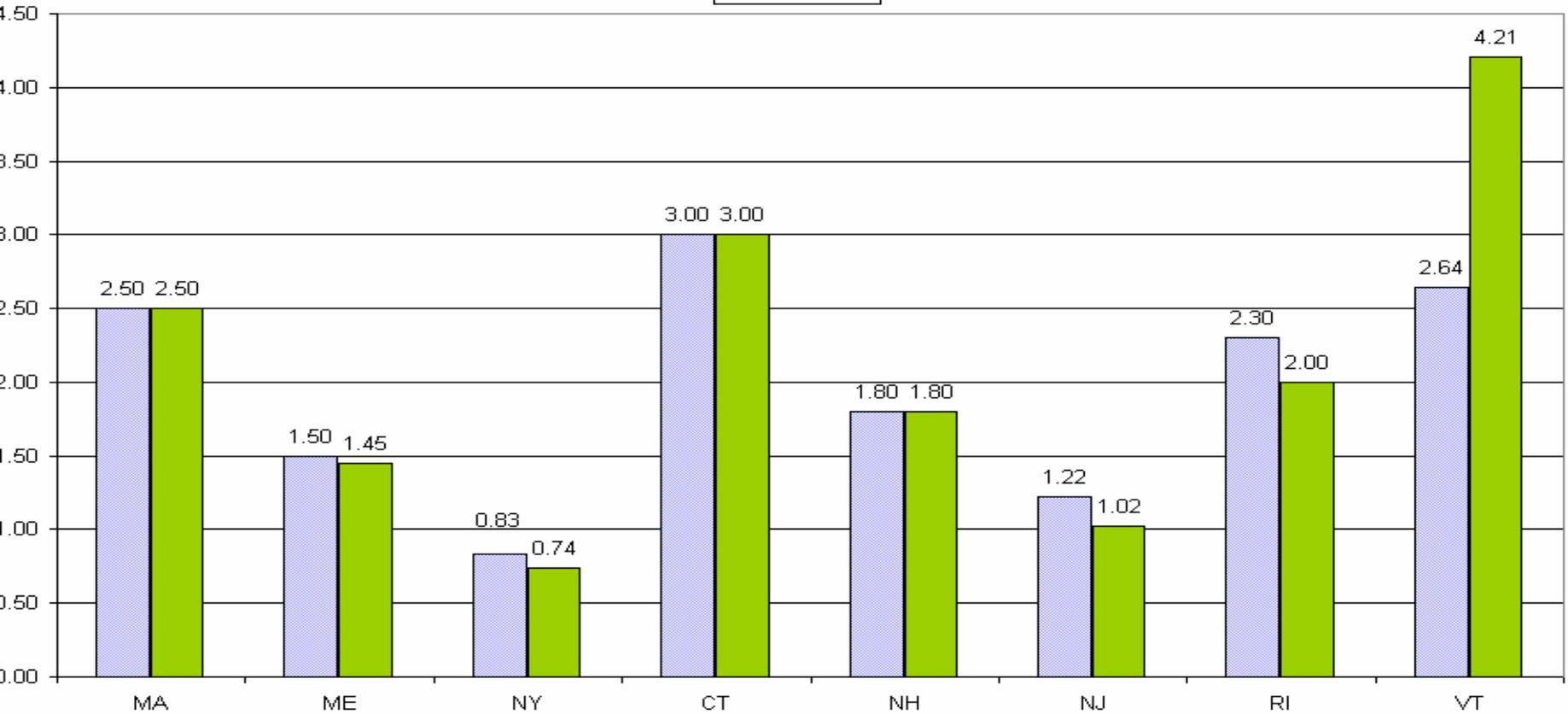
Energy Efficiency Funding

Annual Funding

Regional Average as of December 2005 = 2.0 (\$0.0020/kWh)

Regional Average as of August 2007 = 2.1 (\$0.0021/kWh)

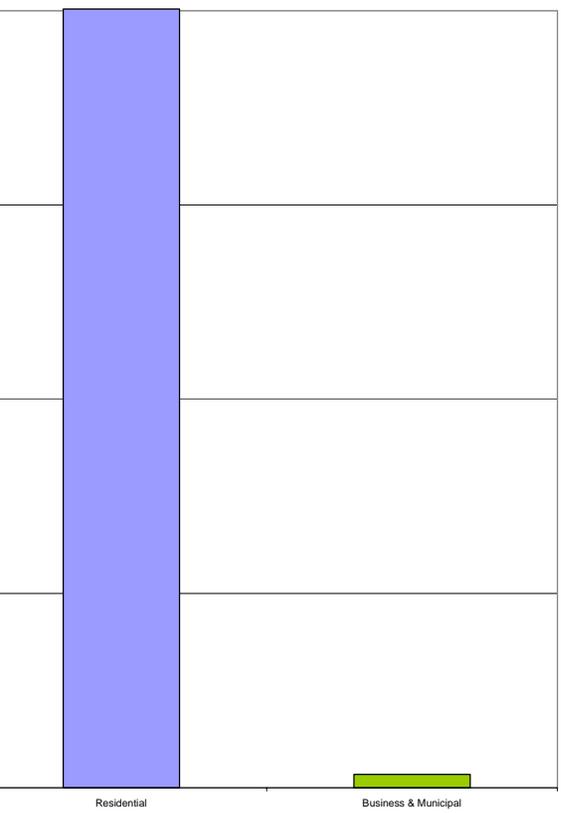
2005 2007



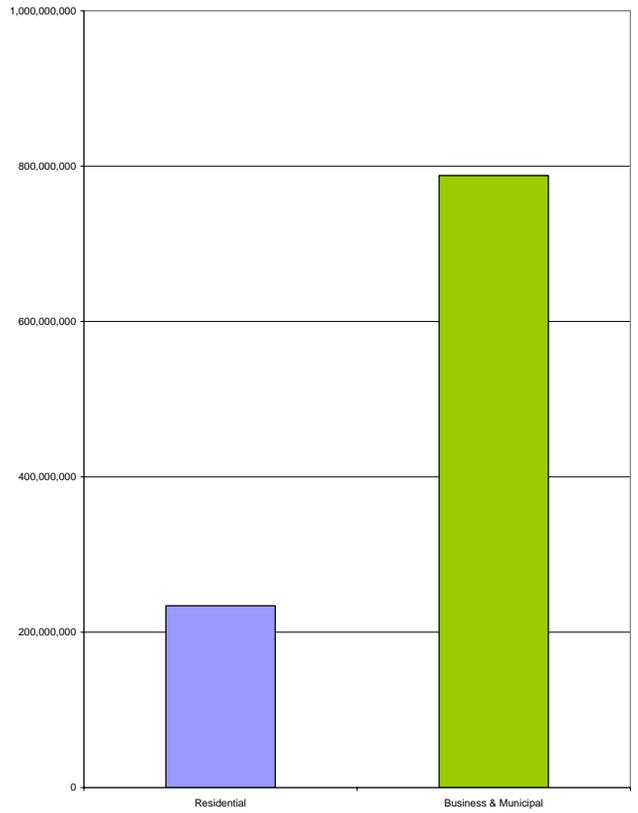
Source: American Council for an Energy-Efficient Economy

Typical Year:

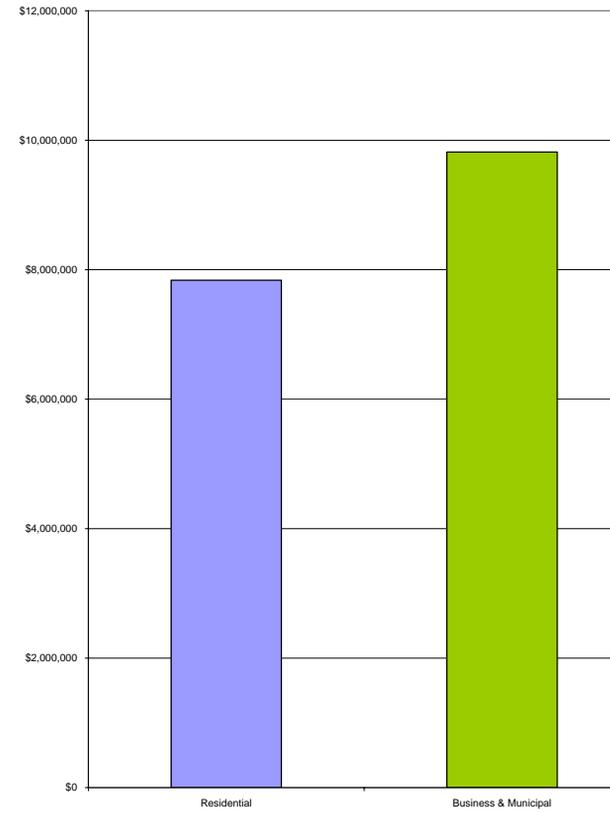
Participation, Savings and Budget



Participation



Lifetime kWh Savings



Budget

 Residential Customers

 Commercial & Industrial Customers

Residential Programs



- **Low Income Weatherization**
 - Improve existing housing stock for low income customers
- 1. **Residential Weatherization**
 - Improve existing housing stock for electric heat and high use customers
- 2. **Energy Star Homes**
 - Improve housing stock by offering incentives and certifying homes that are at least 20% better than required by code
- 3. **Energy Star Appliances**
 - Increase the use and availability of energy efficient (ENERGY STAR) appliances in NH
- 4. **Energy Star Lighting**
 - Increase the use and availability of energy efficient (ENERGY STAR) lighting products in NH

Residential Weatherization: HES/HEA



- Improve existing housing stock for electric heat and low-income customers
- Typical Efficiency Measures
 - Insulation
 - Air Sealing
 - Programmable Thermostats
 - Exhaust Fans, Timers
 - Refrigerators, Freezers
 - CFL Lights & Fixtures
 - Pipe & Tank Wraps
 - Low Flow Aerators

ENERGY STAR Homes Program



Low Income Elderly Housing Project certified as ENERGY STAR

NH average ENERGY STAR participant home is 35% more energy efficient than required by code.

- Improve housing stock by offering incentives and certifying homes that are at least 20% better than required by code.
- No Incentives For Homes Just Built to Code
- Typical Efficiency Measures
 - Increased Insulation
 - Better Air Sealing
 - More efficient heating & cooling systems
 - Programmable Thermostats
 - Bath Exhaust Fans, Timers
 - ENERGY STAR Appliances
 - ENERGY STAR Lighting
 - 3 INSPECTIONS and CERTIFICATION
 - **Typical Incentive Amount \$1,500/home**

ENERGY STAR Appliance Program

NH Ranks #2 in the Nation in Sales of ENERGY STAR Appliances



Dishwashers: NH Ranks #5



Refrigerators: NH Ranks #2



Clothes Washers: NH Ranks #3



Air Conditioners: NH Ranks #5

- Increase the use and availability of energy efficient (ENERGY STAR) appliances in New Hampshire
- Statewide Retailer Network
 - 90 Appliance
 - 100 Lighting
- Program Initiatives
 - Recruit Retailers to be ENERGY STAR Partners
 - Train Sales staff on benefits of ENERGY STAR appliances
 - Promote and Label ENERGY STAR appliance in stores
- **Customer Rebates**
 - \$50 Clothes Washer Rebate
 - \$20 Room AC Rebate

ENERGY STAR Lighting Program



Samuel Bodman, U. S. Secretary of Energy
Jack Schelling, Utility Program Representative

- Increase the use and availability of energy efficient (ENERGY STAR) lighting products in New Hampshire
- Statewide Retailer Network
- Program Initiatives
 - Recruit Retailers to be ENERGY STAR Partners
 - Train Sales staff on benefits of ENERGY STAR lights
 - Promote and Label ENERGY STAR lights in stores
- **Customer Rebates**
 - \$1 CFL Rebate
 - \$10 Fixture Rebate

Business Programs



1. New Equipment & Construction

- Technical assistance and incentives to purchase & install higher efficiency equipment for new construction, renovation and failed equipment

2. Large Business Retrofits

- Technical assistance and incentives to upgrade old equipment to newer, more energy efficient technology

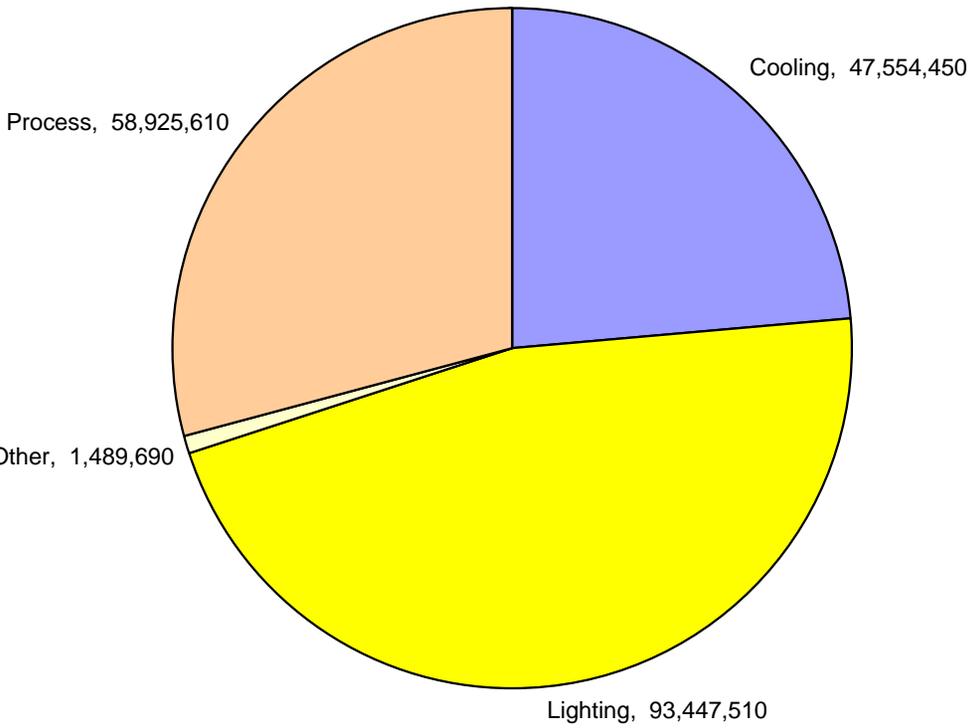
3. Small Business

- Turnkey energy efficiency service, featuring energy audits and incentives, for upgrading or replacing older inefficient equipment
- **...OR New / Retrofit above**



New Equipment & Construction Program

2007 C&I New Equipment & Construction Program
Lifetime kWh Savings by Measure Type



- Provide technical assistance and incentives for customers to purchase and install higher efficiency equipment for new construction, major renovation and failed equipment replacement projects.

- **Typical Efficiency Measures**

- Lighting & Occupancy Sensors
- Motors, Variable Frequency Drives
- Air Compressors
- HVAC & Chillers Equipment
- Energy Management Systems

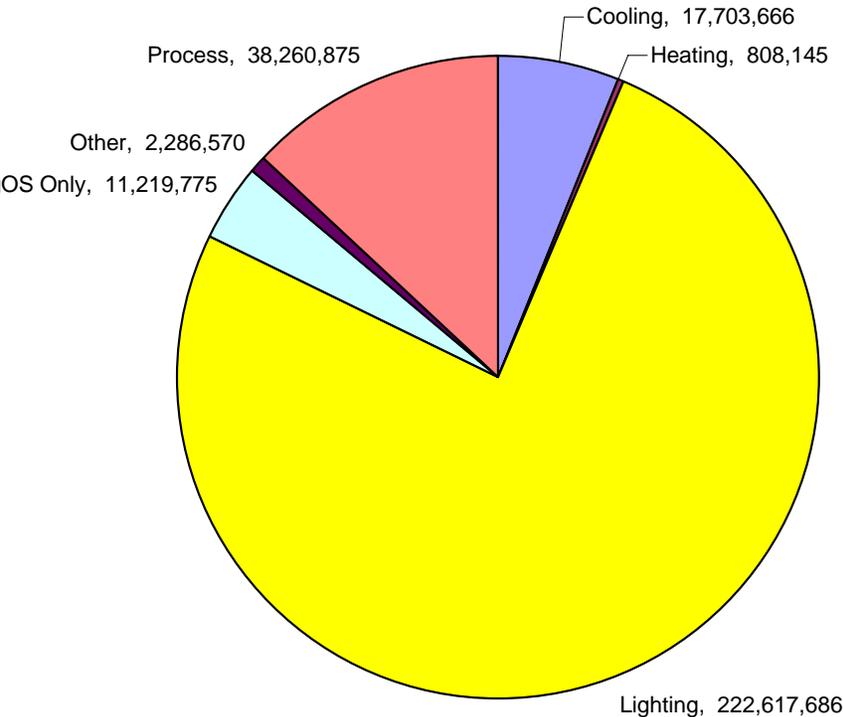
- Incentive based on incremental cost and = lesser of 75% of incremental cost, or buy down to 1 year payback

Average 2007 Project
Average Incremental Cost: \$15,251
Average Payback: \$11.354

Large Business Retrofit Program



2007 Large C&I Retrofit Program
Lifetime kWh Savings by Measure Type



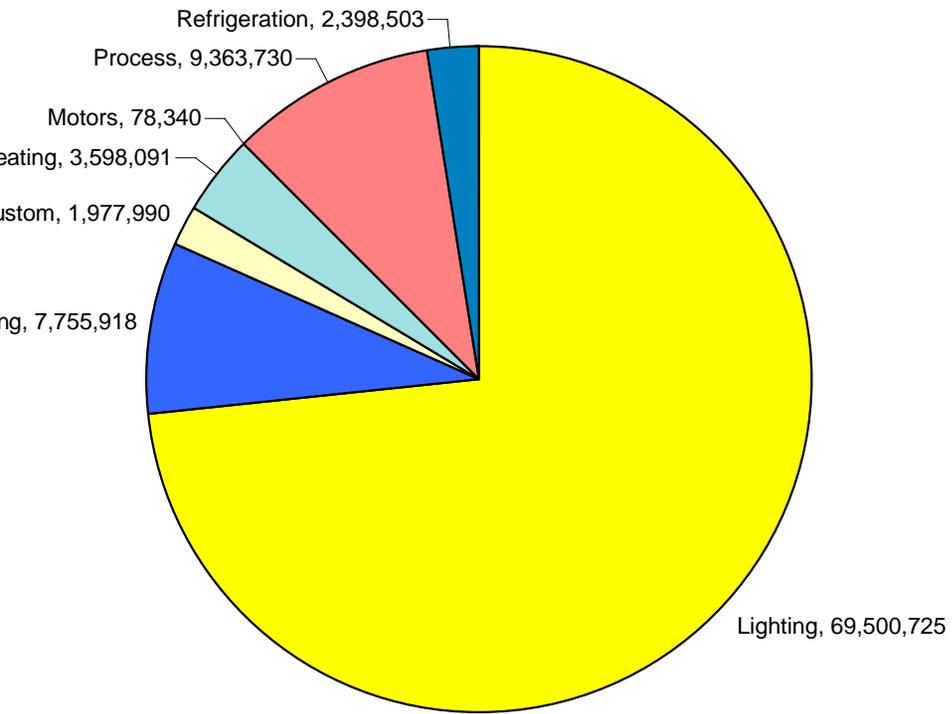
- Provide technical assistance and rebates to customers to upgrade old equipment and systems to newer, more energy efficient technology
- Typical Efficiency Measures
 - Lighting & Occupancy Sensors
 - Motors, Variable Frequency Drives
 - Air Compressors
 - LED Traffic Lights
 - Energy Management Systems
 - Incentive based on total project cost and = lesser of 35% of total project cost, or buy down to 1 year payback

Average 2007 Project

Project Cost: \$34,403
Rebate: \$10,025

Small Business Energy Solutions

2007 Small Business Energy Solutions Program
Lifetime kWh Savings by Measure Type



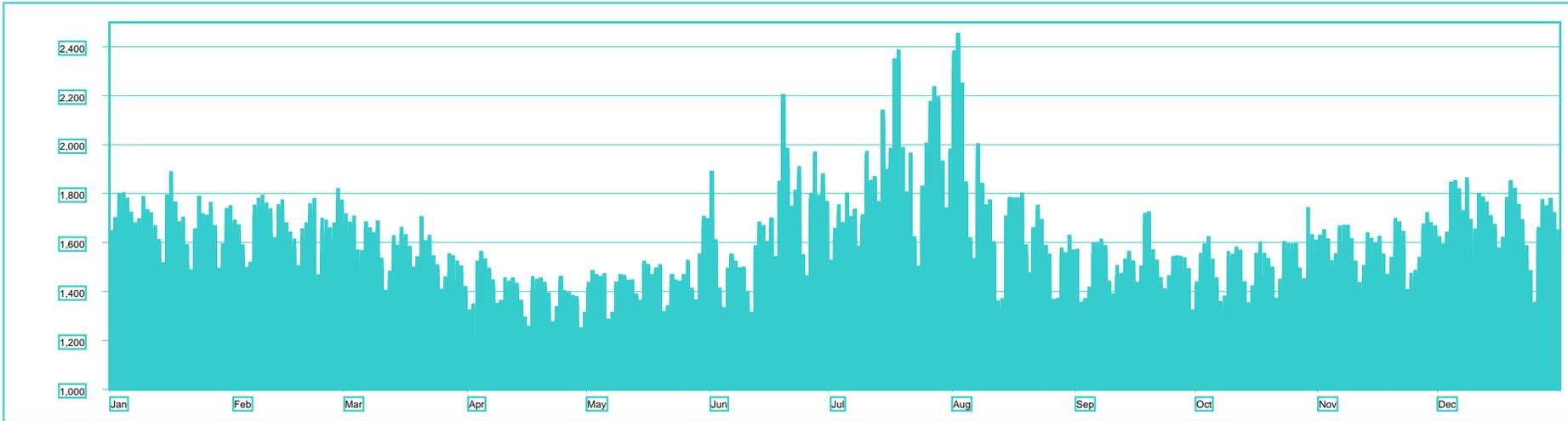
- Provide turnkey energy efficiency services to small business customers to help them upgrade/replace older, inefficient equipment with newer energy efficient technologies.
- Majority of work is lighting retrofits, but we do offer incentives for all energy saving equipment retrofits projects
- **Rebate = 50% of project cost**
- **Retrofit = 35% or 1 yr payback**
- **New = 75% of incremental**

Average 2007 Project	
al Project Cost:	\$7,990
ate:	\$3.261

Project Financing Options

- On Bill Financing Smart Start
 - No up-front costs
 - Payments designed to be less than savings
 - Monthly payment added to electric bill
 - Limited availability
- Business Loans
 - Utility and bank (Ocean National Bank) programs
 - Flexible repayment terms
 - Billing options

Forward Capacity Market - Basics



- How We Use Electricity
 - Average Usage vs Peak Usage
 - How Efficiency Programs Can Impact Usage
- Electricity Measurement
 - Energy (killowatt-hour)
 - Demand (killowatt)
- 2007 CORE Programs Saved
 - 997,000,000 kWh
 - 8,500 kW

FCM – Funding Source

- The capacity reductions resulting from the CORE Programs are eligible for payments from ISO-NE.
- CORE Program participants must agree to forego individual capacity rights
- FCM payments added \$800,000 to the statewide 2008 CORE Programs budget.

Core Programs Savings Summary

	2003	2004	2005	2006	2007	Total
Nettime kWh Savings (Million) 	1,368	925	1,022	973	997	5,285
Customers Served 	59,699	51,136	81,581	86,555	86,113	365,084
Dollars Saved (Million) 	\$217.1	\$146.8	\$162.2	\$154.4	\$158.2	\$838.7
Emissions Reduction (Tons) 	1,036,277	546,431	603,754	539,520	552,982	3,278,964
Nettime kWh Cost (cents) 	1.7	1.8	1.95	1.95	1.9	

Touch Points & Opportunities

- Energy Efficiency Potential
- Decoupling
- RGGI
- RPS - Renewable Portfolio Standard
- DER – Distributed Energy Resources

Questions?

